



CAME

UNDERGROUND OPERATOR
FOR SWING GATES

FA01182-EN



INSTALLATION MANUAL

FROG-A / FROG-AV / FROG-AE

EN English



WARNING!
important safety instructions:
READ CAREFULLY!



PREMISE

• EMPLOY THIS PRODUCT ONLY FOR THE USE FOR WHICH IT WAS EXPRESSLY MADE. ANY OTHER USE IS DANGEROUS. CAME S.p.A. IS NOT LIABLE FOR ANY DAMAGE CAUSED BY IMPROPER, WRONGFUL AND UNREASONABLE USE • KEEP THESE WARNINGS TOGETHER WITH THE INSTALLATION AND OPERATION MANUALS THAT COME WITH THE OPERATOR.

BEFORE INSTALLING

(CHECKING WHAT'S THERE: IF YOUR EVALUATION IS NEGATIVE, DO NOT PROCEED BEFORE HAVING COMPLIED WITH ALL SAFETY REQUIREMENTS)

• CHECK THAT THE AUTOMATED PARTS ARE IN GOOD MECHANICAL ORDER, THAT THE OPERATOR IS LEVEL AND ALIGNED, AND THAT IT OPENS AND CLOSES PROPERLY. MAKE SURE YOU HAVE SUITABLE MECHANICAL STOPS • IF THE OPERATOR IS TO BE INSTALLED AT A HEIGHT OF OVER 2.5 M FROM THE GROUND OR OTHER ACCESS LEVEL, MAKE SURE YOU HAVE ANY NECESSARY PROTECTIONS AND/OR WARNINGS IN PLACE • IF ANY PEDESTRIAN OPENINGS ARE FITTED INTO THE OPERATOR, THERE MUST ALSO BE A SYSTEM TO BLOCK THEIR OPENING WHILE THEY ARE MOVING • MAKE SURE THAT THE OPENING AUTOMATED DOOR OR GATE CANNOT ENTRAP PEOPLE AGAINST THE FIXED PARTS OF THE OPERATOR • DO NOT INSTALL THE OPERATOR UPSIDE DOWN OR ONTO ELEMENTS THAT COULD YIELD AND BEND. IF NECESSARY, ADD SUITABLE REINFORCEMENTS TO THE ANCHORING POINTS • DO NOT INSTALL DOOR OR GATE LEAVES ON TILED SURFACES • MAKE SURE ANY SPRINKLER SYSTEMS CANNOT WET THE OPERATOR FROM THE GROUND UP • MAKE SURE THE TEMPERATURE RANGE SHOWN ON THE PRODUCT LITERATURE IS SUITABLE TO THE CLIMATE WHERE IT WILL BE INSTALLED • FOLLOW ALL INSTRUCTIONS AS IMPROPER INSTALLATION MAY RESULT IN SERIOUS BODILY INJURY • IT IS IMPORTANT TO FOLLOW THESE INSTRUCTIONS FOR THE SAFETY OF PEOPLE. KEEP THESE INSTRUCTIONS.

INSTALLING

• SUITABLY SECTION OFF AND DEMARCATÉ THE ENTIRE INSTALLATION SITE TO PREVENT UNAUTHORIZED PERSONS FROM ENTERING THE AREA, ESPECIALLY MINORS AND CHILDREN • BE CAREFUL WHEN HANDLING OPERATORS THAT WEIGH OVER 20 KG. IF NEED BE, USE PROPER SAFETY HOISTING EQUIPMENT • ALL OPENING COMMANDS (THAT IS, BUTTONS, KEY SWITCHES, MAGNETIC READERS, AND SO ON) MUST BE INSTALLED AT LEAST 1.85 M FROM THE PERIMETER OF THE GATE'S WORKING AREA, OR WHERE THEY CANNOT BE REACHED FROM OUTSIDE THE GATE. ALSO, ANY DIRECT COMMANDS (BUTTONS, TOUCH PANELS, AND SO ON) MUST BE INSTALLED AT LEAST 1.5 M FROM THE GROUND AND MUST NOT BE REACHABLE BY UNAUTHORIZED PERSONS • ALL MAINTAINED ACTION COMMANDS, MUST BE FITTED IN PLACES FROM WHICH THE MOVING GATE LEAVES AND TRANSIT AND DRIVING AREAS ARE VISIBLE • APPLY, IF MISSING, A PERMANENT SIGN SHOWING THE POSITION OF THE RELEASE DEVICE • BEFORE DELIVERING TO THE USERS, MAKE SURE THE SYSTEM IS EN 12453 STANDARD COMPLIANT (REGARDING IMPACT FORCES), AND ALSO MAKE SURE THE SYSTEM HAS BEEN PROPERLY ADJUSTED AND THAT ANY SAFETY, PROTECTION AND MANUAL RELEASE DEVICES ARE WORKING PROPERLY • APPLY WARNING SIGNS (SUCH AS THE GATE'S PLATE) WHERE NECESSARY AND IN A VISIBLE PLACE

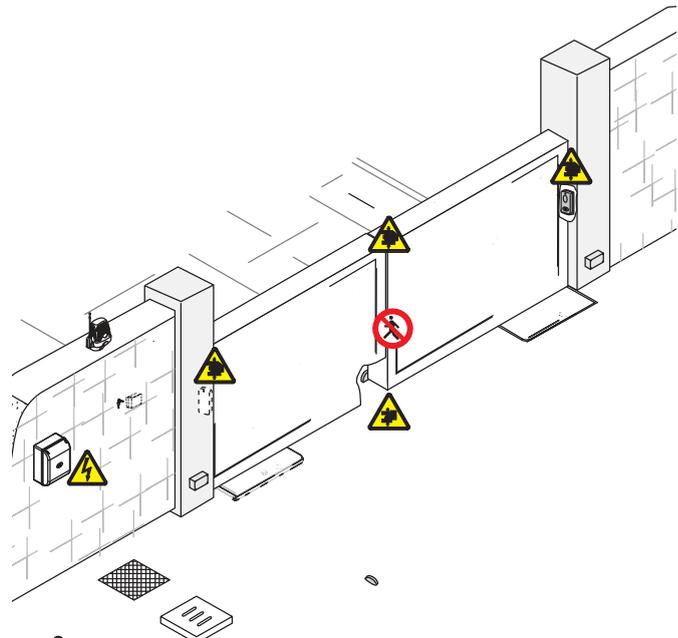
SPECIAL USER-INSTRUCTIONS AND RECOMMENDATIONS

• KEEP GATE OPERATION AREAS CLEAN AND FREE OF ANY OBSTRUCTIONS. MAKE SURE THAT THE PHOTOCELLS ARE FREE OF ANY OVERGROWN VEGETATION AND THAT THE OPERATOR'S AREA OF OPERATION IS FREE OF ANY OBSTRUCTIONS • DO NOT ALLOW CHILDREN TO PLAY WITH FIXED COMMANDS, OR TO LOITER IN THE GATE'S MANEUVERING AREA. KEEP ANY REMOTE CONTROL TRANSMITTERS OR ANY OTHER COMMAND DEVICE AWAY FROM CHILDREN, TO PREVENT THE OPERATOR FROM BEING ACCIDENTALLY ACTIVATED. • THE APPARATUS MAY BE USED BY CHILDREN OF EIGHT YEARS AND ABOVE AND BY PHYSICALLY, MENTALLY AND SENSORIALLY CHALLENGED PEOPLE, OR EVEN ONES WITHOUT ANY EXPERIENCE, PROVIDED THIS HAPPENS UNDER CLOSE SUPERVISION OR ONCE THEY HAVE BEEN PROPERLY INSTRUCTED TO USE THE APPARATUS SAFELY AND ABOUT THE POTENTIAL HAZARDS INVOLVED. CHILDREN MUST NOT PLAY WITH THE APPARATUS. CLEANING AND MAINTENANCE BY USERS MUST NOT BE DONE BY CHILDREN, UNLESS PROPERLY SUPERVISED • FREQUENTLY CHECK THE SYSTEM FOR ANY MALFUNCTIONS OR SIGNS OF WEAR AND TEAR OR DAMAGE TO THE MOVING STRUCTURES, TO THE COMPONENT PARTS, ALL ANCHORING POINTS, INCLUDING CABLES AND ANY ACCESSIBLE CONNECTIONS. KEEP ANY HINGES, MOVING JOINTS AND SLIDE RAILS PROPERLY LUBRICATED • PERFORM FUNCTIONAL CHECKS ON THE PHOTOCELLS AND SENSITIVE SAFETY EDGES, EVERY SIX MONTHS. TO CHECK WHETHER THE PHOTOCELLS ARE WORKING, WAVE AN OBJECT IN FRONT OF THEM WHILE THE GATE IS CLOSING; IF THE OPERATOR INVERTS ITS DIRECTION OF TRAVEL OR SUDDENLY STOPS, THE PHOTOCELLS ARE WORKING PROPERLY. THIS IS THE ONLY MAINTENANCE OPERATION TO DO WITH THE POWER ON. CONSTANTLY CLEAN THE PHOTOCELLS' GLASS COVERS USING A SLIGHTLY WATER-MOISTENED CLOTH; DO NOT USE ANY SOLVENTS OR OTHER CHEMICAL PRODUCTS THAT MAY RUIN THE DEVICES • IF REPAIRS OR MODIFICATIONS ARE REQUIRED TO THE SYSTEM, RELEASE THE OPERATOR AND DO NOT USE IT UNTIL SAFETY CONDITIONS HAVE BEEN RESTORED • CUT OFF THE POWER SUPPLY BEFORE RELEASING THE OPERATOR FOR MANUAL OPENINGS AND BEFORE ANY OTHER OPERATION, TO

PREVENT POTENTIALLY HAZARDOUS SITUATIONS. READ THE INSTRUCTIONS • IF THE POWER SUPPLY CABLE IS DAMAGED, IT MUST BE REPLACED BY THE MANUFACTURER OR AUTHORIZED TECHNICAL ASSISTANCE SERVICE, OR IN ANY CASE, BY SIMILARLY QUALIFIED PERSONS, TO PREVENT ANY RISK • IT IS FORBIDDEN FOR USERS TO PERFORM ANY OPERATIONS THAT ARE NOT EXPRESSLY REQUIRED OF THEM AND WHICH ARE NOT LISTED IN THE MANUALS. FOR ANY REPAIRS, MODIFICATIONS AND ADJUSTMENTS AND FOR EXTRAORDINARY MAINTENANCE, CALL TECHNICAL ASSISTANCE • LOG THE JOB AND CHECKS INTO THE PERIODIC MAINTENANCE LOG.

ADDITIONAL SPECIAL RECOMMENDATIONS FOR EVERYONE

• KEEP AWAY FROM HINGES AND MECHANICAL MOVING PARTS • DO NOT ENTER THE OPERATOR'S AREA OF OPERATION WHEN IT IS MOVING • DO NOT COUNTER THE OPERATOR'S MOVEMENT AS THIS COULD RESULT IN DANGEROUS SITUATIONS • ALWAYS PAY SPECIAL ATTENTION TO ANY DANGEROUS POINTS, WHICH HAVE TO BE LABELED WITH SPECIFIC PICTOGRAMS AND/OR BLACK AND YELLOW STRIPES • WHILE USING A SELECTOR SWITCH OR A COMMAND IN MAINTAINED ACTIONS, KEEP CHECKING THAT THERE ARE NO PERSONS WITHIN THE OPERATING RANGE OF ANY MOVING PARTS, UNTIL THE COMMAND IS RELEASED • THE GATE MAY MOVE AT ANY TIME AND WITHOUT WARNING • ALWAYS CUT OFF THE POWER SUPPLY BEFORE PERFORMING ANY MAINTENANCE OR CLEANING.



-  Danger of foot crushing
-  Hand crushing hazard
-  Danger high voltage
-  No transit during operation

KEY

-  This symbol indicates parts to read carefully.
-  This symbol indicates parts about safety.
-  This symbol tells you what to say to the end users.

THE MEASUREMENTS, UNLESS OTHERWISE STATED, ARE IN MILLIMETERS.

DESCRIPTION

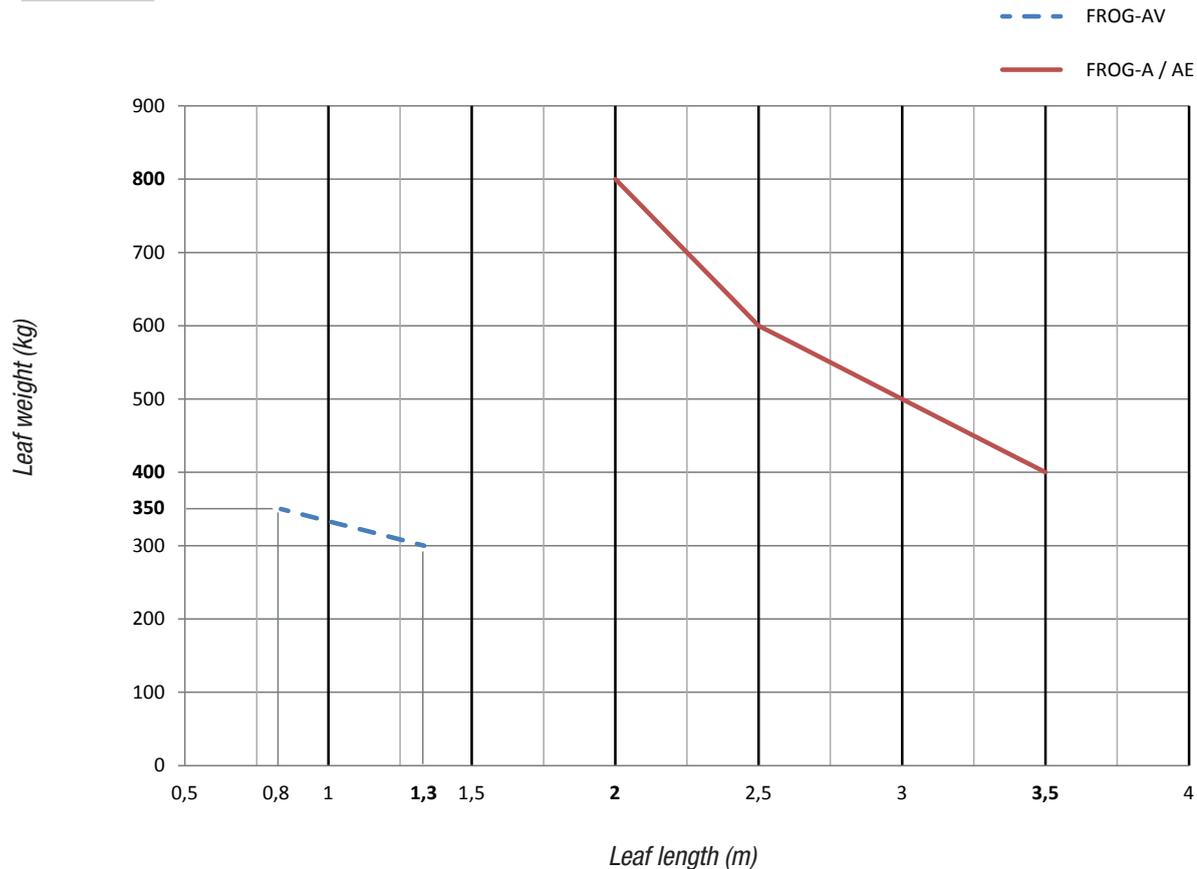
FROG-A Irreversible gearmotor for swing gates with 3.5 m long leaves, with adjustable closing-leaf stop.
 FROG-AE Irreversible gearmotor - with encoder - for swing gates with 3.5 m long leaves, with adjustable closing-leaf stop.
 FROG-AV Irreversible gearmotor for swing gates with 1.3 m long leaves, with adjustable closing-leaf stop.

Intended use

Designed to power swing gates for residential or condominium use.

-  Any installation and operation that differs from what is set out in this manual is prohibited.

Limits of use



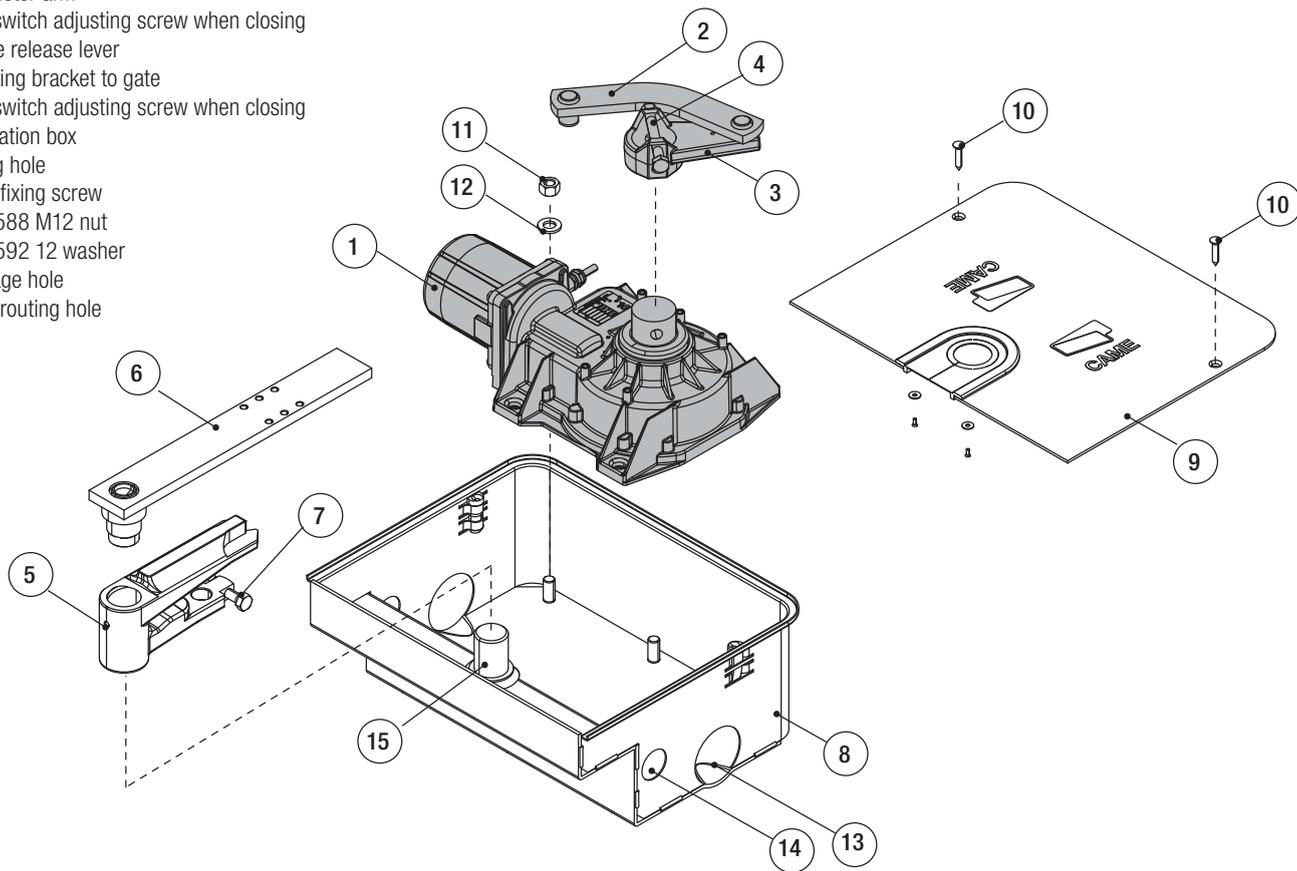
With swing gates it is always advisable to install and electro-lock. This is to ensure a reliable closing and to protect the gearmotor's inner workings. But whereas with reversible operators it is merely advisable, with irreversible ones, beyond 2.5 m, it is obligatory.

Technical data

TYPE	FROG-A / FROG-AE	FROG-AV
Protection rating (IP)		67
Power supply (V - 50/60 Hz)		230 AC (1P+N+PE)
Motor power supply (V - 50/60 Hz)		230 AC
Power draw (A)	1,9 max.	2,5 max.
Power (W)	200	300
Thrust (N m)	320 max.	240 max.
Opening time to 90° (s)	18	9
Duty Cycle (%)		30%
Operating temperature (°C)		-20 ÷ +55
Motor thermal protection (°C)		150
Gear ratio		1/1152
Insulation class		I
Weight (kg)		11

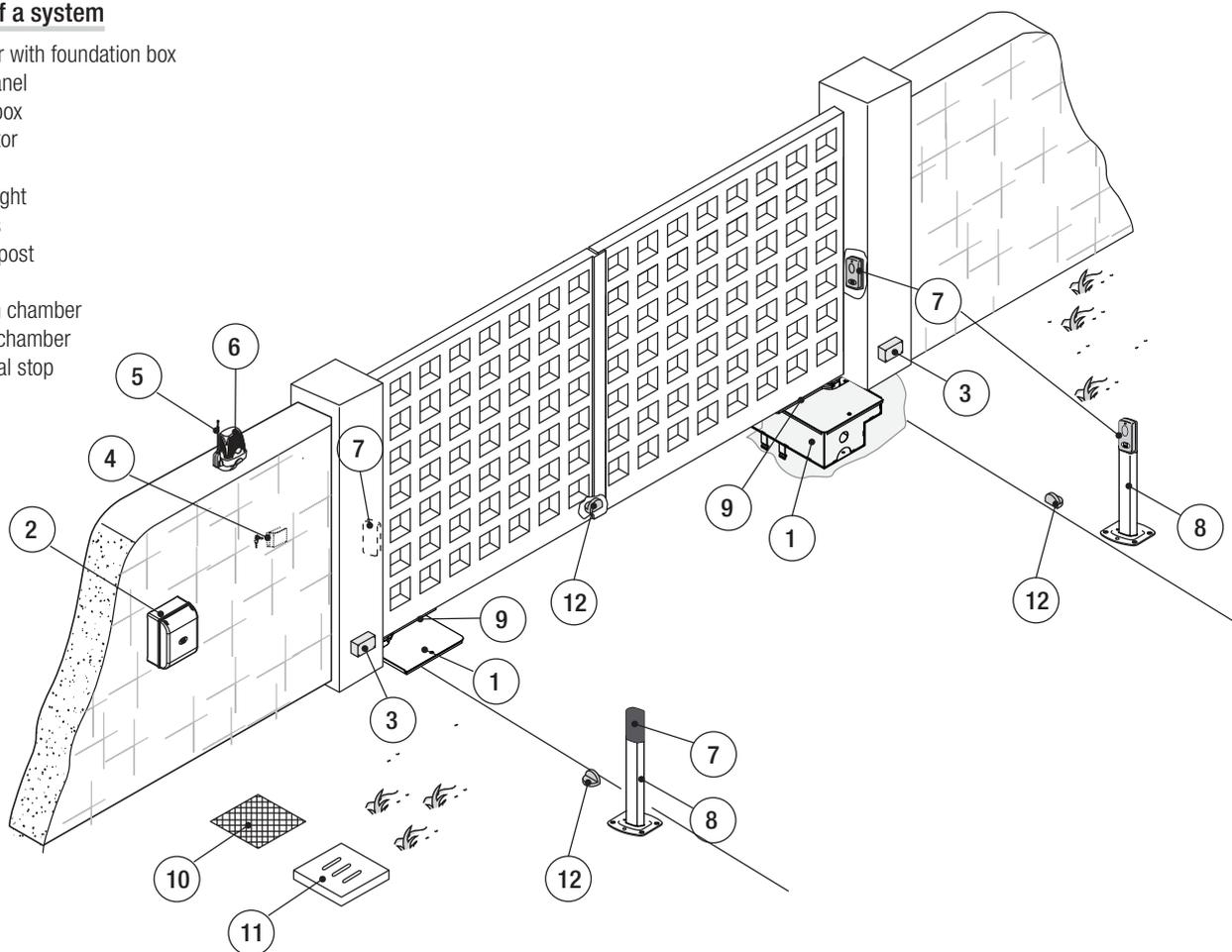
Description of the components

1. Gearmotor
2. Transmission lever
3. Gearmotor arm
4. Limit switch adjusting screw when closing
5. Couple release lever
6. Mounting bracket to gate
7. Limit switch adjusting screw when closing
8. Foundation box
9. Casing hole
10. Cover fixing screw
11. UNI 5588 M12 nut
12. UNI 6592 12 washer
13. Drainage hole
14. Cable routing hole
15. Pin

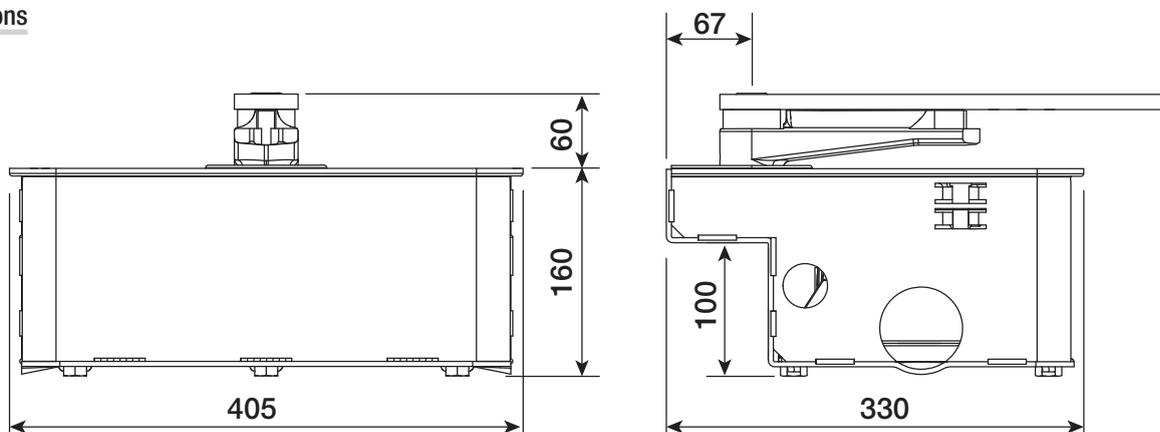


Example of a system

1. Gearmotor with foundation box
2. Control panel
3. Junction box
4. Key selector
5. Antenna
6. Flashing light
7. Photocells
8. Photocell post
9. Latch
10. Inspection chamber
11. Drainage chamber
12. Mechanical stop



Dimensions



GENERAL INSTALLATION INSTRUCTIONS

⚠ Installation must be carried out by qualified and experienced personnel in compliance with applicable regulations.

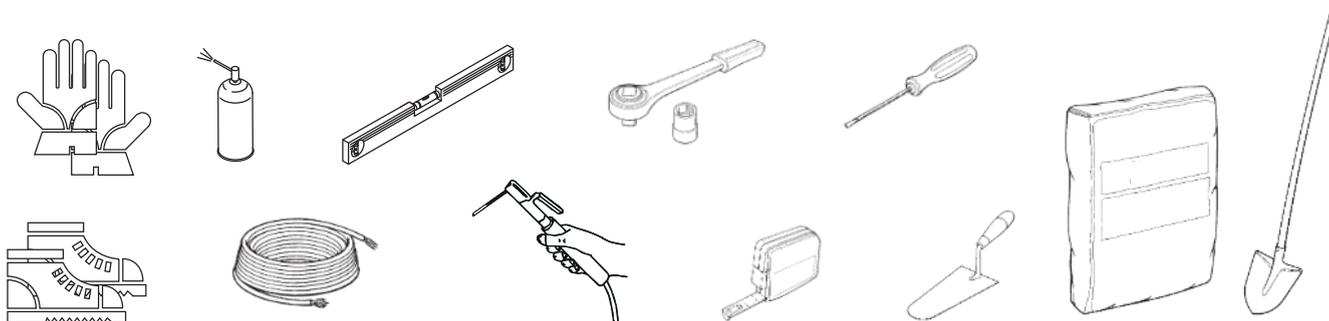
Preliminary checks

⚠ Before installing the operator:

- Provide a suitable single-pole disconnection device, with a maximum of 3 mm between the contacts, to disconnect the power supply;
- Prepare suitable piping and ducts for routing the electrical cables, ensuring protection against mechanical damage;
- Prepare a drain pipe to prevent stagnation that may cause oxidation;
- ⚠ Make sure that any connections within the container (made to ensure the continuity of the protection circuit) are fitted with additional insulation compared to the other internal conductor parts;
- Make sure the gate structure is sturdy enough, that the hinges are in proper working order and that there is no friction between the moving and fixed parts;
- Make sure there are opening and closing mechanical stops.

Tools and materials

Make sure you have all the tools and materials you will need for the installation at hand to work in total safety and compliance with current standards and regulations. The figure shows some examples of installer's tools.



Types of cables and minimum thicknesses

Connection	Cable type	Cable length 1 < 15 m	Cable length 15 < 30 m
Control panel power supply 230 V	H05RN-F	3G x 1,5 mm ²	3G x 2,5 mm ²
Motor power supply 230 V		4G x 1,5 mm ²	4G x 2,5 mm ²
Flashing light		2 x 0,5 mm ²	2 x 1,5 mm ²
Photocell transmitters	FROR CEI 20-22 IEC EN 50267-2-1	2 x 0.5 mm ²	
Photocell receivers		4 x 0.5 mm ²	
Control and safety devices	TWISTED	2 x 0.5 mm ²	
Encoder		max 30 m	
Antenna	RG58	max 10 m	

N.B. : If the cables differ in length from what shown in the table, the cable cross-section is determined according to the actual current draw of the devices connected and according to the provisions of the IEC EN 60204-1 standard.

For connections that require several, sequential loads, the sizes given on the table must be re-evaluated based on actual power draw and distances. When connecting products that are not specified in this manual, please refer to the documentation provided with said products.